

## CLAIMS

1. A method of processing a surface of a nitride semiconductor crystal,  
wherein

5 a surface of a nitride semiconductor crystal (11) is brought into contact with a liquid containing at least Na, Li or Ca as a processing solution (15).

2. The method of processing a surface of a nitride semiconductor crystal according to claim 1, wherein

10 said processing solution (15) is a liquid containing at least Na and has an Na content of 5-95 mol%.

3. The method of processing a surface of a nitride semiconductor crystal according to claim 1, wherein

15 said processing solution (15) is a liquid containing at least Li and has an Li content of 5-100 mol%.

4. The method of processing a surface of a nitride semiconductor crystal according to claim 1, wherein

said nitride semiconductor crystal (11) is an  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  semiconductor crystal ( $0 \leq x \leq 1$ ,  $0 \leq y \leq 1$ ,  $0 \leq x + y \leq 1$ ).

20 5. A nitride semiconductor crystal having a maximum depth of a surface scratch of at most  $0.01 \mu\text{m}$  and obtained with a method of processing a surface of a nitride semiconductor crystal wherein a surface of a nitride semiconductor crystal (11) is brought into contact with a liquid containing at least Na, Li or Ca as a processing solution (15).

6. The nitride semiconductor crystal according to claim 5, wherein

25 said processing solution (15) is a liquid containing at least Na and has an Na content of 5-95 mol%.

7. The nitride semiconductor crystal according to claim 5, wherein

said processing solution (15) is a liquid containing at least Li and has an Li

content of 5-100 mol%.

8. The nitride semiconductor crystal according to claim 5, wherein  
said nitride semiconductor crystal (11) is an  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  semiconductor  
crystal ( $0 \leq x \leq 1$ ,  $0 \leq y \leq 1$ ,  $0 \leq x + y \leq 1$ ).

5 9. A nitride semiconductor crystal having an average thickness of a damaged  
layer of at most 2  $\mu\text{m}$  and obtained with a method of processing a surface of a nitride  
semiconductor crystal wherein a surface of a nitride semiconductor crystal (11) is  
brought into contact with a liquid containing at least Na, Li or Ca as a processing  
solution (15).

10 10. The nitride semiconductor crystal according to claim 9, wherein  
said processing solution (15) is a liquid containing at least Na and has an Na  
content of 5-95 mol%.

11 11. The nitride semiconductor crystal according to claim 9, wherein  
said processing solution (15) is a liquid containing at least Li and has an Li  
15 content of 5-100 mol%.

12. The nitride semiconductor crystal according to claim 9, wherein  
said nitride semiconductor crystal (11) is an  $\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$  semiconductor  
crystal ( $0 \leq x \leq 1$ ,  $0 \leq y \leq 1$ ,  $0 \leq x + y \leq 1$ ).

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